

period. **METHODS:** The 5% Medicare national sample Parts A, B, & D (n=1,229,698) was used to estimate ordinary least squares regression models for prospective community payment to predict year-2 (2008) annualized medical (CMS-HCC) and pharmacy (CMS-RxHCC) expenditures from year-1 (2007) demographics, CMS model inputs, and the MEM. Gamma-distributed, log-linked generalized linear models were estimated for zero-inflated medical expenditure outcomes. OLS models were also estimated using truncated and log-transformed expenditures. **RESULTS:** The CMS-HCC model (OLS  $R^2=0.0698$ ) was only marginally improved by the addition of MEM ( $R^2=0.0706$ ). The CMS-RxHCC model ( $R^2=0.1485$ ; Grouped  $R^2=0.3696$ ) was markedly improved by the addition of MEM ( $R^2=0.2489$ ; Grouped  $R^2=0.7692$ ). Further, the predictive ratios for pharmacy expenditure deciles show that the CMS-RxHCC+MEM model more accurately predicts in 8 out of 10 deciles compared to the CMS-RxHCC alone. **CONCLUSIONS:** Although adding MEM to the CMS-HCC models used to predict medical expenditures does not appear to be a useful method of enhancing risk-adjusted payments, the MEM performed particularly well with the CMS-RxHCC model, predicting year-2 pharmacy expenditures. Pharmacy expenditures are generally less variable compared to medical expenditures, making improvements to prediction more difficult for medical models. Incorporating the MEM into Medicare Part D risk-adjustment models (CMS-RxHCC) would improve risk-adjusted capitated payments from both the perspectives of CMS and the health plans and mitigate adverse risk selection.

#### PHP75

##### WHETHER THE TREATMENT EXPENDITURES OR THE PHARMACEUTICAL EXPENDITURES OF SOCIAL SECURITY INSTITUTION (SSI) HAVE A HIGHER INCREASE RATE BETWEEN 2005 AND 2011 IN TURKEY?

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**OBJECTIVES:** Turkey has accomplished remarkable improvements in terms of health status particularly after the implementation of the Health Transformation Program (HTP). Within the scope of HTP, the number of people covered by public health insurance, the number of hospital visits and also the number of physician consultation per capita has increased and disparities of benefit package between different sick funds have been unified. As a result, total health care expenditures have increased at a large extent. The aim of this study is to evaluate the rates of increases in the expenditures of Social Security Institution (SSI) in terms of pharmaceutical and treatment expenditures between 2005 and 2011. **METHODS:** Databases of SSI, IMS, Ministry of Health and AIFD have been searched for the period of 2005 to 2011. Rates of increase in the health expenditures, number of people covered by public health insurance, hospital visits and the number of physician consultation per capita have been evaluated and compared. **RESULTS:** Between 2005 and 2011, coverage of public health insurance has risen from 89 to 96, physician consultation per capita has increased 63.8%, total health expenditures of SSI have increased 18% with a 23% increase in treatment expenditures and 12% increase in pharmaceutical expenditures. **CONCLUSIONS:** As a result of increase in the coverage of public health insurance and the number of hospital visits, treatment expenditures have risen at a large extent. But on the other hand, pharmaceutical expenditures' increase rate was not at the same level. The main reasons are the global budget policy and the increases at the mandatory institutional discounts, which are being used as a major cost containment tool. Despite the success in the containment of pharmaceutical expenditures, any major cost containment policy for treatment expenditures haven't been implicated, and in addition treatment expenditures are continuing to rise.

#### PHP76

##### SURFING THE GERMAN BENEFIT ASSESSMENT WAVE

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**OBJECTIVES:** The German Pharmaceutical Market Restructuring Act (AMNOG) was implemented January 2011 and heralded as one of the most important European health care reforms to impact the pharmaceutical industry. Two years into its implementation the industry is still adapting and learning to navigate the new process effectively. This research assessed the impact of the AMNOG reform since January 2011 to inform new product development and launch strategies. **METHODS:** To identify the criteria for successful benefit assessment outcomes and their relative importance in justifying price premiums, the benefit assessment dossiers submitted to-date were analysed in a systematic approach. Findings were then validated through in-depth interviews with national level stakeholders. **RESULTS:** As of January 2013, 29 products have been launched in Germany since the AMNOG reform: five achieved a considerable additional benefit, ten received a minor additional benefit and three received an unquantifiable additional benefit. However, almost half of the products submitted for benefit assessment were not granted any additional benefit, indicating that two years after the implementation of the AMNOG reform, manufacturers are still adapting to the changing payer environment. Reasons for unsuccessful benefit assessment outcomes point to the importance of building a dialogue with the G-BA before dossier submission and understanding the G-BA's criteria for comparator selection. They also highlight the importance of opting for a clinical trial design, acceptable within IQWiG's benefit assessment methodology, amenable to robust comparative studies with the chosen comparator and long-term data collection. **CONCLUSIONS:** The new German HTA process is still an evolving process and it is important to learn from the completed benefit assessments and price negotiations. This understanding will help secure successful outcomes for products currently in development and patient access to novel therapies, not only in Germany, but in other countries, which continue to look at the German HTA model for reference.

#### PHP77

##### DOES CONTINUITY OF CARE MATTER?

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**OBJECTIVES:** Relational continuity of care (COC) refers to the quality and duration of the relationship between a patient and provider. We aimed to determine whether increased COC is associated with decreased health care utilization in patients with chronic conditions. **METHODS:** We searched MEDLINE, EMBASE, CINAHL and the Cochrane Library from 2002 to December 2011 to identify studies comparing outcomes in patients with high, medium, and low COC. Chronic disease cohorts were constructed using administrative databases from Ontario, Canada. Resource use and costs for each condition were calculated over five years and utility values were identified in the literature; estimates of clinical effect were applied to each cohort. The expected cost (2012 Canadian dollars) and QALY gain of improving continuity was explored in a sensitivity analysis. **RESULTS:** Thirteen observational studies were included in the systematic review. All assessed continuity using administrative data to measure visits to primary care providers. Results were not pooled due to variability in COC indices and patient populations. However, across all cohorts people with high COC had significantly fewer hospitalizations and emergency department visits compared to people with low and medium continuity. As a result, people with high continuity incur fewer health care costs compared to those with lower continuity. It is likely that interventions designed to improve COC would represent value for money, even if only marginally effective. **CONCLUSIONS:** These initiatives could take the form of policy decisions governing the financing and delivery of health care in the community. Such changes may have far-reaching consequences for patients and providers throughout the system; more research in this area is needed. The literature was limited by an absence of evidence in family health teams and among providers who are not physicians.

#### PHP78

##### DETERMINANTS OF PHYSICIAN PRACTICE STYLES

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**OBJECTIVES:** This study identifies factors that influence physicians' use of medical resources. **METHODS:** We used the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID), the American Hospital Association Annual Survey Database, and the Area Resource File in this analysis. Our hospital data for 2008 were drawn from Arizona and Florida, and physician information was obtained from medical boards of each state where we used physicians' license numbers to register each hospital inpatient visit to a physician. Over 2.5 million inpatient records were used in the analysis. We employed linear cost models using all hospital inpatient stays registered to physicians for whom we had information on observable characteristics. We also estimated multilevel regression models that clustered hospital inpatient visits across physicians. We then repeated our linear regression analysis focusing separately on physicians working only in either teaching or non-teaching hospitals to address possible endogeneity of patient case mix and unobservable physician-specific factors that may not be completely addressed via regression models. Finally, we re-estimated our multilevel model using all hospital inpatient stays registered to two subsamples of physicians based on their observable characteristics by employing propensity score nearest-neighbor (NN) matching without replacement. **RESULTS:** Our key findings remained the same across all estimations: 1) the costs of hospital inpatient stays registered to female physicians or foreign-trained physicians are significantly lower than the costs of hospital stays registered to male physicians or U.S.-trained physicians; 2) the costs of hospital stays registered to physicians with more experience is lower when compared to physicians with less experience; and 3) there is substantial variation in costs of hospital inpatient stays across board certified physician specialties, where surgeons and cardiologists are generally associated with higher costs of hospital inpatient stays. **CONCLUSIONS:** Our findings demonstrate that physicians' characteristics have a significant impact on the costs of hospital inpatient stays.

#### PHP79

##### DID MEDICAL LITIGATION AGAINST PHYSICIANS INCREASE INPATIENT HOSPITAL COST?

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**OBJECTIVES:** This study empirically investigates "medical litigations" against physicians to assess its impact on hospital inpatient costs registered to physicians facing medical litigations and the spillover effects on other physician colleagues. **METHODS:** We employ generalized linear models to estimate the impact of the medical litigation against an individual physician on hospital inpatient costs. We also estimate the spillover effects of the medical litigation against an individual physician on the costs of hospital inpatient stays registered to other physicians with no medical litigation history practicing within the same hospitals for each of the following board certified physician specialty groups: Cardiologists, general practitioners, neurologists, obstetricians and/or gynecologists, pediatricians, psychologists, surgeons, and urologists. We use the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID), the American Hospital Association Annual Survey Database, and the Area Resource File in this analysis. Our hospital data for 2008 are drawn from Florida, and physician information was obtained from the state's medical board where we use physicians' license numbers to register each hospital inpatient visit to a